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titled "Indications of five species, with two new genera of extinct Fishes." Referred to Mr. Cassin, Dr. Le Conte and Dr. Henderson.

Mr. Cassin announced that M. Duchaillu was about to return to Western Africa, for the purpose exclusively of geographical exploration, and the collection of objects of Natural History. Arrangements have been made to secure, for the cabinet of this Society, the collections of Birds especially, and also of some other objects. Mr. Cassin explained the general design of the Expedition, which was to pass from Cape Lopez, 1° S. latitude, towards the supposed source of the Congo river, with the intention of attempting to reach its source.

M. Duchaillu has already penetrated farther into the interior of this part of Africa than any other white man. The coast is unknown farther inland than from twenty to twenty-five miles, except to slavers, there having been no exploration of that part of Africa. M. Duchaillu had been on the Rivers Moonda and Mouni, had traced the latter to its source, and had ascertained the existence of high mountains, probably a continuation or spur of the Atlas range, and much further south than is to be found in any published maps.

Another fact ascertained by him, is the existence of a very populous nation, of marked negro character, known as the Powein Nation, which he estimates at from five to seven millions. Their country extends across from the sources of the Moonda, probably to the sources of the Nile, and the nation is probably that mentioned by Bruce, as occasionally descending the Nile. It is a warlike and cannibal nation, engaged in agriculture, not wandering, resembling in this respect the Ashantees and Dahomeys. It displays the highest degree of civilization yet observed among the true negroes, presenting an analogy to the Feejees, among the Oceanic nations. M. Duchaillu possesses peculiar advantages as an explorer. He has lived long in the country, is entirely acclimated, speaks well two of the languages, and understands thoroughly the negro character. He proposes to proceed merely with convoys of natives from each tribe successively to the next.

At the suggestion of Dr. Leidy, a Committee was appointed to solicit contributions from the Members of the Academy, to aid the Expedition.

October 30th.

Vice President BRIDGES in the Chair.

The Committees on Mr. Ashmead's paper, read 9th inst., and on Dr. Leidy's, read 16th inst., severally reported in favor of publication in the Proceedings.

Catalogue of MARINE ALGÆ, *discovered at Beesley's Point during the past summer, with some remarks thereon.*

By SAMUEL ASHMEAD.

Beesley's Point is situated in Cape May County, N. J., on the southern side of the Great Egg-Harbor Bay, about three miles from the ocean. The bay is about four miles in length, with an average breadth of two miles, when it connects with the inlet at the Beach. The water (with the exception of the channels) is shoal, interspersed with sedge islands, sand-bars, oyster and clam beds. The main channel, is deep, narrow, and crooked; and to a person unacquainted with the course, difficult to navigate.

Connected with the bay, on the south, is a flat called "Bond's-bar," containing some hundreds of acres, which, on the recess of the tide, is left nearly bare. A vigorous growth of *Zostera marina* occupies a large portion of this bar.

A narrow channel half a mile in length, and leading into "Little Bay" on the south, separates this bar from the main land, which is Beesley's Point. "Little Bay," when viewed from the main land at high water, presents the appearance of a lake, a mile in length, and nearly the same in width. The water is shoal, and when the tide is out, a mud-flat of considerable extent is left bare.

At the head of Little Bay, is a thoroughfare extending south, parallel with the coast line, and navigable for boats to Cape Island. This thoroughfare is frequently branched, forming islands, and sometimes extends into wide bays. It connects with the sea by various inlets, the most important of which is Corson's, Townsend's and Hereford, forming narrow islands known as "Beaches," and called respectively "Peck's Beach," "Ludlum's Beach" and "Leaming's Beach."

The sea along the sandy coast is shallow, and the action of the breakers violent, which, together with frequent heavy gales from the north east, render it peculiarly unfavorable for the growth of marine vegetation. Yet when we explore the inlets, the thoroughfares, and the land-locked bays with their coves, secure from the violence of winds and waves, we find them far from being so unprolific as they might seem. The sandy-mud bottoms of these shallow waters will be found carpeted with the beautiful membranous expansions of the *Ulva latisssima*, mingling with the elongated fronds of *Enteromorpha intestinalis*, whilst a luxurious growth of *Zostera marina* affords a resting-place for the floating spores of the gaudy Rhodosperms.

The total absence of rocks, or stones of any kind, (save a few small pebbles on the southern shore of the Great Egg-Harbor Bay) produces an unceasing demand for a favorable place for the future growth and propagation of species.

Hence, every submerged substance suited to their condition, is immediately invested not only with *Algæ*, but with *Sertulariæ* and various other *Zoophytes*.

The limited number of the species of marine *Algæ* at Beesley's Point must be attributed to the want of a suitable place, or foot-hold for development, as the climate and the water, it would seem, supply all the other conditions favorable to their growth.

The following catalogue, embracing five MELANOSPERMS, nineteen RHODOSPERMS, and six CHLOROSPERMS, are all that I have as yet been able to detect. A more careful search may probably supply a few more species.

In the classification, and names of the species, I have followed that eminent Algologist, Hon. Wm. H. Harvey, in his "*Nereis Boreali-Americana*," published by the Smithsonian Institute at Washington.

Series I. MELANOSPERMEÆ.

FUCUS VESICULOSUS, *Linn.* Very common between tide marks, on the shores of the Bays, and the thoroughfares; not unfrequently attached to sods by a root penetrating several inches into the soil, throwing off numerous lateral shoots having the appearance of undeveloped fronds, forming a strong hold-fast, and affording an interesting illustration of the modification of a discoid root, where local circumstances are unfavorable to such expansions. It is, however, more frequently found adhering by a conical disc to mussels, (*Modiola plicatula*) which, at high water, unable to resist the buoyancy of the full grown plant with its inflated vesicles, are, by degrees, wrested from their place of growth and cast upon the shore to perish, when the *Fucus* together with other marine plants are carried away by the inhabitants for manure.

STILOPHORA RHIZODES, *J. Ag.* Rather rare; on old shells, &c, near low-water mark. The few specimens which I obtained are fertile, of vigorous growth, and densely covered with wart-like fructification.

ECTOCARPUS LITTORALIS, *Lyngb.* Very abundant in the Bays, on various submerged substances. Also fringing the steep banks of the thoroughfares between tide marks. Disappearing in July.

ECTOCARPUS SILICULOSUS, *Lyngb.* Occurs sparingly on the shores of Little Bay, on *Fucus vesiculosus.*

ECTOCARPUS VIRIDIS, *Harv.* Common in the Bays, on *Zostera marina*, &c. Disappearing in July.

Series II. RHODOSPERMEÆ.

CHONDRIA DASYPHYLLA, *Ag.* Plentiful in Little Bay, and on "Bond's Bar," growing in large tufts on the sandy mud, to which it is attached by a fibrous root.

CHONDRIA BAILEYANA, *Mont.* Common with the above.

POLYSIPHONIA OLNEYI, *Harv.* Rare, on *Zostera marina* in "Little Bay."

POLYSIPHONIA HARVEYI, *Bailey.* Very abundant in the Bays, and on Bond's Bar; on *Zostera marina.*

POLYSIPHONIA VARIEGATA, *Ag.* Very common, on *Zostera marina*, also attached to the mud by a fibrous root.

POLYSIPHONIA NIGRESCENS, *Grev.* I collected fine specimens of this most variable plant, in fruit, in the month of May. It occurs in great abundance in Little Bay, attached to the bottom by a fibrous root.

CHAMPIA PARVULA, *Harv.* Plentiful in Little Bay, on *Zostera marina.*

GRINNELLIA AMERICANA, *Harv.* Of this beautiful plant I only found a solitary perfect specimen. It was growing in the Great Egg-Harbor Bay near the shore, attached to the bottom by a somewhat fibrous root. The frond consists of a leaf-like expansion, four inches long, and two inches wide. Several leaflets, in as many stages of development, spring from the base of the midrib, giving evidence of vitality.

I had previously discovered fragments of this interesting plant, cast ashore near the inlet, and also in the Great Egg-Harbor Bay, one of which I sent to Professor Bailey of West Point, who suggested that it was a drift specimen, probably from the narrows of New York Bay, where it occurs abundantly. Notwithstanding that these fragments may have been stragglers, I have had sufficient evidence that this species is an inhabitant of Beesley's Point, and therefore give it a place in my catalogue.

GRACILARIA MULTIPARTITA, *J. Ag.* Plentiful, particularly fine on planted oysters in Little Bay.

SOLIERIA CHORDALIS, *J. Ag.* Very common on all the shores. There can be no doubt, but this bushy plant will grow and flourish in the coves of Little Bay, and other sheltered situations, without a foothold, for I have rarely found it attached to the bottom.

CHYLOCLADIA BAILEYANA, *Harv.* Frequent on *Zostera marina, Ulva latissima*, &c.

SPYRIDIA FILAMENTOSA, *Harv.* Particularly abundant and vigorous in the Bays; where, sheltered from the winds and waves, like the *Solieria chordalis*, it will luxuriate without the slightest attachment to the bottom.

CERAMIUM RUBRUM, *Ag.* This plant, in all its perplexing varieties, is found on *Zostera marina*, rather abundantly.

CERAMIUM DIAPHANUM, *Roth.* Occurs sparingly associated with the above.

CERAMIUM FASTIGIATUM, *Harv.* In dense tufts, on *Zostera marina*, rather rare.

CALLITHAMNION BYSSOIDEUM, *Arn.* Frequent on *Zostera marina*, also attached to old shells in Great Egg-Harbor Bay.

CALLITHAMNION POLYSPERMUM, *Ag.* Rare, on old shells in Great Egg-Harbor Bay.

GELIDIUM CORNEUM, *var. γ. pinnatum*, *Grev.* I obtained two or three specimens of this plant in Little Bay, on old shells, near low-water mark.

I close the list of Rhodosperms with some remarks on an interesting plant, for which, as yet, I have no name. I obtained upwards of twenty specimens of this *Alga* during July and August. They were cast ashore near the inlet of Great Egg Harbor Bay, parasitical on *Ulva latissima*, *Zostera marina*, and *Gracilaria multipartita*, associated with *Chylocladia Baileyana*. I sought diligently for fertile specimens, but without success.

This plant, in the articulations of the frond, shows a tendency towards *Griffithsia setacea*, from which, however, it differs greatly in some of its other characters.

The branching of *G. setacea* is on the dichotomous model, and the axils are acute, whilst in this plant the branching is irregular, showing a tendency to secund ramification, and the axils are obtuse, particularly in the ramuli, where they are found to be almost horizontally patent, which is sufficient to distinguish it from *G. setacea.*

Perhaps one of the most remarkable characters of this *Alga* is that the ramuli generally issue from the middle of the internodes, which, according to Harvey, would exclude it even from the Order *Ceramiaceæ*, to which the genus *Griffithsia* belongs.

Under the natural character of the Order *Ceramiaceæ*, Harvey remarks as follows: "In the simpler species, the frond consists of an articulated filament, formed of a number of cylindrical *cells* or *articulations*, placed end to end. This filament is either dichotomously or pinnately branched, the branches being similar to the main stem, and always springing from the upper part of each internode (or articulation) either from its shoulder, or from a short distance below that point." See Nereis Boreali-Americana, page 206.

These different characters have been made available by Algologists for the purpose of classification, and if they are to be regarded as of primary consequence, this plant is certainly new to our coast, if not to science.

The following are some of its principal characters, which may serve to distinguish it, until fertile specimens shall be obtained. Frond terete; tubular; monosiphonous; rosy-red; two to four inches long; not much thicker than a human hair; soft but not gelatinous; does not readily decompose in fresh water, nor adhere strongly to paper in drying. Conspicuously articulated throughout; the lower articulations many times longer than their diameter; internodes more or less swollen; nodes consist of narrow pellucid bands, on either side of which is a ring of deep crimson, gradually fading towards the central region of the internode.

The branching irregular; sometimes showing a tendency to secund ramification; branchlets beset at unequal intervals with secund, spindle-shaped ramuli, half a line to four or five lines in length, frequently horizontally patent, generally issuing from the middle of the internodes, and sometimes much attenuated at the point of insertion.

Apices furnished with several whorls of exceedingly minute dichotomous hairs, only visible under the microscope.

Series III. CHLOROSPERMEÆ.

Bryopsis plumosa, *Ag.* Not common; attached to old shells and other submerged substances on the shore of Great Egg Harbor Bay.

Cladophora falcata, *Harv.* Occurs plentiful in Little Bay.

Enteromorpha compressa, *Grev.* Very common everywhere; infesting the small pebbles on Great Egg Harbor Bay.

Enteromorpha intestinalis, *Link.* Abundant in Little Bay, and on Bond's Bar. Frequently found floating in large quantities in the Bays.

Ulva latissima, *Linn.* Common with the above.

Porphyra vulgaris, *Ag.* Very rare. I have obtained but two or three specimens of this Alga, on *Zostera marina* in Little Bay.

Indications of five species, with two new genera, of extinct Fishes.

By JOSEPH LEIDY, M. D.

1. SICARIUS EXTINCTUS, Leidy.—A species of a new genus, most probably of fishes, but it may be of reptiles. It is founded upon the specimen of a tooth, or it may be a scale or a spine; and it consists of two portions. The body has much the form of the scales of the *Manis*, but is surrounded at base with a thick collar marked with close parallel ridges. The breadth of the body in its perfect condition has been 15 lines; its depth on the convex side 9 lines, and on the vertical slightly concave side 11 lines. The root is 10½ lines in breadth and narrow towards the extremity, which is broken off, and it measures on one side 6 lines and on the other 4½ lines in length.

The specimen was obtained from a black stratum, belonging to the coal series, in number 13 of Rogers, at the head of inclined plane No. 3, of the old portage portion of the Pennsylvania Railroad. It was presented by Townsend Ward, Esq., to Charles A. Poulson, Esq., from whom Mr. Conrad borrowed it for my inspection.

2. EDESTUS VORAX, Leidy.—A species of a new genus of fishes, founded on the fragment of a jaw with portions of four teeth. The fragment of jaw is 3 inches in breadth by 10 lines in thickness at the dental border, and nearly double that thickness at the opposed border, which is convex. It is composed of four wedge-like segments excavated at base, so that those posteriorly are inserted into those anteriorly, and each has a tooth coossified at the narrower border in the same plane as the broad surfaces of the specimen. The teeth resemble those of *Charcharodon*, and in their perfect condition have been about 2 inches long, and have had nearly the same breadth at base. They have strongly and coarsely dentated borders, and are thinly coated with enamel.

In relation to the affinities of the singular fish to which the fragment belonged and its exact position in the skull, I suspect it to have been a portion of the upper jaw of a genus allied to *Lepidosteus*, from the circumstance that the latter, in like manner, has the upper jaw composed of a number of distinct segments.

The specimen is most probably from the carboniferous series, and it was obtained by William S. Vaux, Esq., from an itinerant showman, who found it at Frozen Rock, Arkansas River, 20 miles below Fort Gibson, in the Indian Territory.

3. ORACANTHUS VETUSTUS, Leidy.—This species is founded on an ichthyodorulite, the body of which in its perfect condition has been about 6 inches in length, and it measures 2½ inches in breadth at base. The broad surfaces and slightly concave border are thickly covered with mamillary tubercles arranged in very irregular, transverse rows, and unsymmetrically on the two broad sides.

The specimen is from Missouri Territory, and formerly belonged to Mr. Conrad's collection now in possession of this Academy. Adhering to its base there is a portion of black shale with a partially imbedded segment of an encrenite stem, which Mr. Conrad considers as fixing the specimen in the carboniferous series.

4. PRISTIS CURVIDENS, Leidy.—This species is based on a single tooth 5 inches long by 8 lines wide at the point of exsertion. The posterior border at its thickest part is 4½ lines, is straight throughout, and only at its outer two-fifths is slightly depressed. The anterior border is convex; and the tooth is considerably curved downward.

The specimen was discovered by W. Taylor, Esq., in the Green Sand, near Pemberton, New Jersey.

5. PRISTIS ENSIDENS, Leidy.—This species is founded on numerous specimens of teeth, of which the largest in their perfect condition have been about 1½ inches long by 7½ lines broad at base. They are straight and have both borders equally acute and convex.

The specimens were discovered by Capt. Bowman, U. S. A., in the sands of Ashley River, South Carolina.

Mr. Rene La Roche Jr., and Dr. Samuel Lewis, of Philadelphia, were elected *Members*.